



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Canned Red Tart Pitted Cherries

Effective date May 12, 1976

This is the seventh issue, as amended, of the United States Standards for Grades of Canned Red Tart Pitted Cherries published in the **FEDERAL REGISTER** of April 9, 1976 (41 FR 15016) to become effective May 12, 1976. This issue supersedes the seventh issue, which has been in effect since May 15, 1974.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. these grade standards are available for use by producers, suppliers, and buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetable, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The standards also serve as a basis for the inspection and grading of commodities by the Federal inspection service, the only activity authorized to approve the designation of U.S. grades as referenced in the standards, as provided under the Agricultural Marketing Act of 1946. This service, available as on-line (in-plant) or lot inspection and grading of all processed fruit and vegetable products, is offered to interested parties, upon application, on a fee-for-service basis. The verification of some specific recommendations, requirements, or tolerances contained in the standards can be accomplished only by the use of on-line inspection procedures. In all instances, a grade can be assigned based on final product factors or characteristics.

In addition to the U.S. grade standards, grading manuals or instructions for inspection of several processed fruits and vegetables are available upon request for a nominal fee. These manuals or instruction contain detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. comments may be submitted to, and copies of standards and grading manuals obtained from:

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Authority:	Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended (7 U.S.C. 1622, 1624).

Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

§52.771 Identity.

Canned red tart pitted cherries is the product represented as defined in the standard of identity for canned cherries (21 CFR 27.30), issued pursuant to the federal Food, Drug, and Cosmetic Act, and packed in one of the liquid media specified in §52.773; and is sealed in a hermetically sealed container and so processed by heat as to prevent spoilage.

§52.772 Grades.

- (a) **U.S. Grade A or U.S. Fancy** is the quality of canned red tart pitted cherries that have at least the following attributes:

- (1) reasonably good color;
- (2) practically free from pits;
- (3) practically free from defects;
- (4) good character;
- (5) normal flavor and odor; and
- (6) score not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

Canned red tart pitted cherries of this grade may contain not more than eight cherries per sample unit that are less than more than eight cherries per sample unit that are less than 9/16 inch (14 mm) in diameter.

- (b) **U.S. Grade B or U.S. Choice** is the quality of canned red tart pitted cherries that have at least the following attributes:

- (1) reasonably good color;
- (2) reasonably free from pits;
- (3) reasonably free from defects;
- (4) reasonably good character;
- (5) normal flavor and odor; and
- (6) score not less than 80 points when scored in accordance with the scoring system outlined in this subpart.

Canned red tart pitted cherries of this grade may contain not more than 15 cherries per sample unit that are less than 9/16 inch (14 mm) in diameter.

- (c) **U.S. Grade C or U.S. Standard** is the quality of canned red tart pitted cherries that have at least the following attributes:

- (1) fairly good color;
- (2) fairly free from pits;

- (3) fairly free from defects;
- (4) fairly good character;
- (5) normal flavor and odor; and
- (6) score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.

There is no size requirement for canned red tart pitted cherries of this grade.

- (d) **Substandard** is the quality of canned red tart pitted cherries that fail to meet the requirements of **U.S. Grade C**.

§52.773 Liquid media and brix measurements.

- (a) Brix measurement requirements for the liquid media in canned red tart pitted cherries are not incorporated in the grades of the finished product since sirup, or any other liquid medium, as such, is not a factor of quality for the purpose of these grades. The designations of liquid packing media and Brix measurements, where applicable, are as follows:

Designations	Brix measurement
Extra heavy sirup; Extra heavily sweetened fruit juice(s) and water; or Extra heavily sweetened fruit juice(s).	28° or more but not more than 45°
Heavy sirup; or Heavily sweetened fruit juice(s) and water; or Heavily sweetened fruit juice(s).	22° or more but less than 28°
Light sirup; or Lightly sweetened fruit juice(s) and water; or Lightly sweetened fruit juice(s).	18° or more but less than 22°
Slightly sweetened water; or Slightly sweetened fruit juice(s) and water; or Slightly sweetened fruit juice(s).	Less than 18°
In water	Not applicable
In fruit juice(s) and water	Not applicable
In fruit juice(s)	Not applicable

- (b) The densities of the packing media, as listed in this section are measured on the refractometer, expressed as percent, by weight, sucrose (degree Brix) with correction for temperature to the equivalent at 20° C. (68°F.), but without correction for invert sugars or other substances. The Brix measurement of the packing media may be determined by any other method which given equivalent results.

- (c) Brix determination is made on the packing media 15 days or more after the cherries are canned or on the blended homogenized slurry of the comminuted entire contents of the container if canned for less than 15 days.

§52.774 Fill of container.

- (a) **FDA requirements.** Canned red tart pitted cherries shall meet the fill of the container requirements as set forth in the regulation of the Food and Drug Administration (21 CFR 27.32).

(b) **Recommended minimum drained weights.**

- (1) **General.** The minimum drained weight recommendation for the various container sizes and types of packing media as listed in Table I of this section are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purpose of these grades.

(2) **Definitions.**

Sample average Average of all the drained weights of the sample containers representing a lot.

\bar{X}_d A specified minimum sample average drained weight.

LL Lower limit for individual container drained weight.

- (3) **Method for ascertaining drained weight.** The drained weight of canned red tart pitted cherries is determined by emptying the contents of the container upon a U.S. Standard No. 8 circular sieve of proper diameter containing eight meshes to the inch (.0937 inch (2.3 mm), \pm 3 percent, square openings) so as to distribute the Product evenly over the sieve. Without shifting the product, incline the sieve at an angle of 17° to 20° to facilitate drainage and allow to drain for two minutes. The weight of drained cherries is the weight of the sieve and product less the weight of the dry sieve. Sieve eight inches in diameter is used for No. 3 size containers (404 x 414) and smaller, and a sieve 12 inches in diameter is used for containers larger than No. 3 size containers.

- (4) **Compliance with recommended minimum drained weights.** A lot of canned red tart pitted cherries is considered as meeting the minimum drained weight recommendations when the following criteria are met:

- (i) The sample average meets the specified minimum sample average drained weight (designated as \bar{X}_d in Table I); and
- (ii) The number of sample containers which fail to meet the minimum drained weight for individual containers (designated as LL in Table I) does not exceed the applicable acceptance number specified in Table II.

Table I-Recommended Minimum Drained Weights for Canned Red Tart Pitted Cherries

Container Designation	Packed in water or cherry juice		Packed in any Sirup or Slightly Sweetened Water	
	LL	\bar{X}_d	LL	\bar{X}_d
	-Ounces-		-Ounces-	
No. 303 (303 x 406)	10.7	11.0	9.9	10.2
No. 303 Cyl. (303 x 509) .	14.0	14.4	12.7	13.1
No. 2 (307 x 409)	13.1	13.5	12.3	12.7
No. 10 (603 x 700)	71.2	72.0	69.4	70.2

Table II
Single Sampling Plans and Acceptance Numbers

Sample size (No. of Sample Containers) . . .	3	6	13	21	29	38	48	60
Acceptance Numbers.	0	1	2	3	4	5	6	7

(c) **Recommended Fill weights.**

- (1) **General.** The minimum fill weight recommendations for various container sizes in Table III of this section are not incorporated in the grades of the finished product since fill weight, as such, is not a factor of quality for the purpose of these grades.

(2) **Definitions.**

Subgroup -- A group of sample containers representing a portion of sample.

\overline{X}'_{\min} A specified minimum lot average fill weights

$LWL_{\bar{X}}$ Lower warning limit for subgroup averages.

$LRL_{\bar{X}}$ Lower reject limit for subgroup averages.

LWL Lower warning limit for individual fill weight measurements.

LRL Lower reject limit for individual fill weight measurements.

\overline{R}' A specified average range value.

R_{\max} A specified maximum range for subgroups.

(3) **Method for ascertaining fill weight.** The fill weight of canned red tart pitted cherries is determined in accordance with the U.S. Standards for Determination of Fill Weights and the U.S. Standards for Inspection by Variables.

(4) **Compliance with recommended fill weights.** Compliance with the recommended fill weights for canned red tart pitted cherries shall be in accordance with the U.S. Standards for Inspection by Variables and the U.S. Standards for Determination of Fill Weights.

Table III - Recommended Fill Weight Values for Canned Red Tart Pitted Cherries

Container designation	Fill weight values in ounces							Sampling allowance code
	\overline{X}'_{\min}	$LWL_{\bar{X}}$	$LRL_{\bar{X}}$	LWL	LRL	\overline{R}'	R_{\max}	
No.303	12.9	12.6	12.4	12.2	11.8	0.80	1.70	F
No.303 Cylinder ...	16.8	16.4	16.2	15.9	15.4	1.10	2.20	H
No. 2	15.8	15.4	15.2	14.9	14.4	1.10	2.20	H
No. 10	86.7	85.9	85.5	85.0	84.1	2.00	4.20	P

§52.775 Sample unit size.

Compliance with requirements for the size and the various quality factors is based on the following sample unit sizes for the applicable factor:

- (a) Size, color, pits, and character - 20 ounces of drained cherries.
- (b) Defects (other than harmless extraneous material) - 100 cherries.
- (c) Harmless extraneous material - The total contents of each container in the sample.

§52.776 Ascertaining the grade of a sample unit.

- (a) **General.** The grade of a sample unit of canned red tart pitted cherries is ascertained by considering the factor of flavor and odor of the product and the requirement for size (in U.S. Grade A and U.S. Grade B) which are not scored; the ratings for the factors of color, freedom from pits, defects, and character, which are scored; and the limiting rules which may be applicable.
- (b) **Factors rated by score points.** The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given factor is:

Factors:	Points
Color	20
Freedom from pits	20
Freedom from defects	30
Character	<u>30</u>
Total score	100

- (c) **Definition. Normal flavor and odor** means that the flavor and odor are characteristic of canned red tart pitted cherries and that the product is free from objectionable flavors and objectionable odors of any kind.

§52.777 Ascertaining the rating for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, **18 to 20 points** means 18, 19, or 20 points).

§52.778 Color.

- (a) **"A" classification.** Canned red tart pitted cherries that have a good color may be given a score of 18 to 20 points. **Good color** means a practically uniform color that is bright and typical of canned red tart pitted cherries which have been prepared and processed from properly ripened cherries.
- (b) **"B" classification.** Canned red tart pitted cherries that have a reasonable good color may be given a score of 16 or 17 points. **Reasonably good color** means a reasonably uniform color, typical of canned red tart pitted cherries which have been properly prepared and processed and which color may range from a slight yellowish-red color to a slightly mottled reddish brown.
- (c) **"C" classification.** Canned red tart pitted cherries that have a fairly good color may be given a score of 14 or 15 points. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly good color** means a fairly uniform color typical of canned red tart pitted cherries which have been properly processed and which color may range from a brownish cast to mottled shades of brown.
- (d) **"SStd" classification.** Canned red tart pitted cherries that fail to meet the color requirements for U.S. Grade C may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.779 Freedom from pits.

- (a) **General.** The factor of freedom from pits refers to the incidence of pits and pit fragments.
- (b) A **pit** for the purposes of the allowances in this section, is a whole cherry pit or portions of pits computed as follows:

(1) Definitions.

- (i) A single piece of pit shell, whether or not within or attached to a whole cherry, that is larger than one-half pit shell is considered as one pit;
- (ii) A single piece of pit shell, whether or not within or attached to a whole cherry, that is not larger than one-half pit shell is considered as one-half pit;

- (iii) Pieces of pit shell, within or attached to a whole cherry, when their combined size is larger than one-half pit shell are considered as one pit; and
 - (iv) Pieces of pit shell, within or attached to a whole cherry when their combined size is not larger than one-half pit shell are considered as one-half pit.
- (2) **Drained cherries** means pitted cherries that have been drained of packing medium by the method prescribed in this subpart.
- (c) **"A" classification.** Canned red tart pitted cherries that are practically free from pits may be given a score of 18 to 20 points. **Practically free from pits** means that the number of pits that may be present in the drained cherries does not exceed the allowances for this classification as set forth in Table IV.
- (d) **"B" classification.** Canned red tart pitted cherries that are reasonably free from pits may be given a score of 16 or 17 points. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably free from pits** means that the number of pits that may be present does not exceed the allowances for this classification as set forth in Table IV.
- (e) **"C" classification.** Canned red tart pitted cherries that are fairly free from pits may be given a score of 14 or 15 points. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly free from pits** means that the number of pits that may be present in the drained cherries does not exceed the allowances for this classification as set forth in table IV.
- (f) **"SStd" classification.** Canned red tart pitted cherries that fail to meet the requirements of U.S. Grade C may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.780 Defects.

- (a) **General.** The factor of defects refers to the degree of freedom from harmless extraneous material, mutilated cherries, scar tissue, or by other means.

- (1) **Cherry** means a whole cherry, whether or not pitted, or portions of such cherries which in the aggregate approximate the average size of the cherries.
 - (2) **Harmless extraneous material** means any vegetable substance (including, but not being limited to, a leaf or a stem, and any portions thereof) that is harmless.
 - (3) **Mutilated cherry** means a cherry that is so pitter-torn or damaged by other means that the entire pit cavity is exposed and the appearance of the cherry is seriously affected.
 - (4) **Minor blemished cherry** means any cherry blemished with skin discoloration (other than scald) having an aggregate area of a circle $\frac{9}{32}$ inch (7 mm) or less in diameter which more than slightly affects the appearance of the cherry but does not extend into the fruit tissue.
 - (5) **Blemished cherry** means any cherry blemished by skin discoloration (other than scald) which in the aggregate exceeds the area of a circle $\frac{9}{32}$ inch (7 mm) in diameter. A cherry affected by skin discoloration extending into the fruit tissue or by scab, hail injury, scar tissue, or other abnormality, regardless of size, is considered a blemished cherry.
- (b) **"A" classification.** Canned red tart pitted cherries that are practically free from defects may be given a score of 27 to 30 points. **Practically free from defects** means that the number of defects that may be present does not exceed the number specified for the type of defects in Table IV.
- (c) **"B" classification.** Canned red tart pitted cherries that are reasonably free from defects may be given a score of 24 to 26 points. Canned red tart pitted cherries that fall into this classification may not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably free from defects** means that the number of defects that may be present does not exceed the number specified for the type of defects in Table IV.
- (d) **"C" classification.** If the canned red tart pitted cherries are fairly free from defects, a score of 21 to 23 points may be given. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly free from defects** means that the number of defects that may be present does not exceed the number specified for the type of defects in Table IV.

- (e) **"SStd" classification.** Canned red tart pitted cherries that fail to meet the requirements for Grade C for any reason may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.781 Character.

- (a) **General.** The factor of character refers to the physical characteristics of the flesh of the cherries.
- (b) **"A" classification.** Canned red tart pitted cherries that have a good character may be given a score of 27 to 30 points. **Good character** means that the cherries are thick-fleshed and have a firm, tender texture.
- (c) **"B" classification.** Canned red tart pitted cherries that have a reasonably good character may be given a score of 24 to 26 points. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably good character** means that the cherries may be reasonably thick-fleshed and may be slightly soft.
- (d) **"C" classification.** Canned red tart pitted cherries that have a fairly good character may be given a score of 21 to 23 points. Canned red tart pitted cherries that fall into this classification shall not be graded above U.S. Grade C, regardless of the total score for the product (this is a limiting rule). **Fairly good character** means that the cherries may be thin-fleshed, and may be soft but not mushy, or slightly tough but not leathery.
- (e) **"SStd" classification.** Canned red tart pitted cherries that fail to meet the requirements for U.S. Grade C may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.782 Allowances for quality factors.

**Table IV
Allowances for Quality Factors**

Factor	Sample Unit Size	Maximum number permissible for the respective grade					
		A		B		C	
Pits	20 ozs.	Not more than 2 in any sample unit	Sample average 1 per 40 ozs.	Not more than 3 in any sample unit	Sample average 1 per 30 ozs.	4 or more in any sample unit	Sample average 1 per 20 ozs.
Defects Total - mutilated, + minor blemished, + blemished	10 cherries	10		15		20	
of which Blemished limited to		3		7		15	
Harmless extraneous material	Total Contents	Average 1 piece per 60 ozs. net contents		Average 1.5 pieces per 60 ozs. net contents		Average 3 pieces per 60 ozs. net contents	

§52.783 Ascertaining the grade of a lot.

The grade of a lot of canned red tart pitted cherries covered by these standards if determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§52.1 to §52.83).

§52.784 Score sheet for canned red tart pitted cherries.

Size and kind of container			
Container mark or identification			
Label			
Net weight (ounces)			
Vacuum (inches)			
Drained weight (ounces)			
Sirup designation (extra heavy, heavy, etc.)			
Brix measurement			
Size <u>1</u> /			
Factors		Score points	
Color	20	"A" 18-20 "B" 16-17 "C" 14-15 <u>2</u> / "SStd" 0-13 <u>2</u> /	
Freedom from pits	20	"A" 18-20 "B" 16-17 <u>2</u> / "C" 14-15 <u>2</u> / "SStd" 0-13 <u>2</u> /	
Freedom from defects	30	"A" 27-30 "B" 24-26 <u>2</u> / "C" 21-23 <u>2</u> / "SStd" 0-20 <u>2</u> /	
Character	30	"A" 27-30 "B" 24-26 <u>2</u> / "C" 21-23 <u>2</u> / "SStd" 0-20 <u>2</u> /	
Total score	<u>100</u>		
Normal flavor			
Grade			

1/ See size limitation for U.S. Grade A and U.S. Grade B.

2/ Indicates limiting rule.

The U.S. Standards for Grades of Canned Red Tart Pitted Cherries, as herein amended, shall become effective May 12, 1976 and thereupon will supersede the U.S. Standards for Grades of Canned Red Tart Pitted Cherries which have been in effect since May 15, 1974.

Date April 6, 1976

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Administrator
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